

**ABSTRACT OF THE DISCLOSURE**

Method for data acquisition and processing, which uses time-domain averaging to increase the signal to noise ratio (SNR) in single-event measurements. In a preferred embodiment, NMR echo-trains obtained using high-speed NMR logging are provided, the  
5 echo trains are time-domain averaged, preferably in real-time, over one or more time intervals to sharpen the spatial resolution of the logging tool and/or to increase the signal to noise ratio (SNR) of the data train.

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